



**Health & Safety Plan
RCRA Facility Investigation
Wellman Dynamics Corporation
Creston, Iowa
USEPA ID No. IAD065218737
Revision 0**

September 2005

Prepared For:

**Wellman Dynamics Corporation
1746 Commerce Road
Creston, Iowa 50801**

Prepared By:

**BT², Inc.
2830 Dairy Drive
Madison, Wisconsin 53718**

BT² Project #2631

BT², Inc. Health and Safety Plan

Plan Prepared By: Stephen Sellwood Date: 9-9-05
Project Manager Approval: SL CM Date: 9-9-05
H&S Manager Approval: Eeri Orlan Date: 9-9-05

This plan is for BT², Inc. staff to use on the Wellman Dynamics Corporation RCRA Facility Investigation (BT² Project #2631), while performing the activities described in this plan. A copy of this plan may be provided to non-BT² staff for informational purposes only. It should not be relied upon by non-BT² personnel for their own health and safety needs and procedures.

GENERAL INFORMATION

Site Name & Address: Wellman Dynamics Corporation
1746 Commerce Road
Creston, Iowa 50801

Site Use: Aluminum and magnesium foundry

BT² Project Number: 2631

Project Description: RCRA Facility Investigation

Site Activities: Soil borings, soil sampling, monitoring well installation and development, groundwater sampling

Scheduled Dates of Activities: See attached project schedule

BT² On-site Personnel: Stephen Sellwood – BT² Site Safety Officer
Rick Joslin – BT² Field Geologist

Utilities Locating Service & Utilities Phone Numbers: Public Utilities located by **Iowa One Call: 1-800-292-8989**
Private on site utilities located by Wellman Dynamics Corp. personnel or by private utility locating contractor

In the event that you observe an unsafe condition, you are to move yourself to a safe location, inform the person responsible for the condition, and ask them to correct the condition. If the person does not correct the condition, you are to contact the project manager or the company safety officer and inform them of the problem.

EMERGENCY INFORMATION

Ambulance Response Time: 5-10 minutes
Nearest Hospital: Greater Community Hospital
1700 W. Townline St. #3
Creston, IA 50801
(Est. Travel Time: 5-10 minutes)
See attached map

Directions from Site to Hospital: Turn right out of site driveway onto Osage Street. At stop sign, turn right (west) onto US Highway 34. Turn right (north) onto State Highway 25 (Sumner Ave.). Follow Highway 25 to the left (west) at 160th Street. Hospital is just ahead.

Emergency/First Aid Equipment in BT² vehicle at the following locations:

First Aid Kit:	<u>Behind seat in truck</u>	Fire Extinguisher:	<u>In bed of truck</u> <u>In Vehicle MSDS binder.</u>
Eye Wash:	<u>In bed of truck</u>	MSDS:	→ <u>Additional MSDS attached to</u> <u>this plan (as necessary).</u>

IMPORTANT TELEPHONE NUMBERS

Emergency: Ambulance, Fire, Police **911**
Police (non-emergency, Creston Police Department) (641) 782-8402
Police (non-emergency, Union County Sheriff) (641) 782-7717
Hospital (Greater Community Hospital) (641) 782-7091
BT², Inc. Health & Safety Coordinator (Eric Oelkers) (608) 223-0404 (Home) 224-2830 (Office)
Client Contact (Joe Haller) (641) 782-8521 ext. 206
Site Phone (641) 782-8521 ext. 206
Poison Control Center (Sioux City, IA) (712) 279-3710 or 1-800-222-1222
OSHA Office (Des Moines, IA) (515) 284-4794
Iowa One Call (Utilities) 1-800-292-8989

SITE / WASTE CHARACTERISTICS:

Expected Waste / Substance Type(s): Liquid X Solid X Sludge Gas

Characteristics: Ignitable Corrosive X Reactive
Toxic X Unknown Other (explain below)

Highest Known Concentrations and Media:

Contaminants in soil:

Arsenic: 4.8 mg/kg
Chromium: 8,000 mg/kg
Trichloroethene (TCE): 1,300 µg/kg

Contaminants in groundwater:

Total chromium: 56 mg/l
Arsenic: 0.032 mg/l
Fluoride: 540 mg/l
Benzene: 8.5 µg/l
1,1 Dichloroethene: 3,200 µg/l
cis 1,2-Dichloroethene: 13,000 µg/l
trans 1,2-Dichloroethene: 250 µg/l
Tetrachloroethene (PCE): 34,000 µg/l
1,1,2-Trichloroethane: 35 µg/l
TCE: 6,700 µg/l
Vinyl Chloride: 430 µg/l

**Principal Disposal Method
(type and location):**

Chromium is present in soil and water as a result of releases of chromic acid from containment structures. VOCs are present in soil and water as a result of a known PCE spill, and from other historic releases. Arsenic is likely naturally occurring. Fluoride in groundwater is likely present due to fluoride-containing waste in the facility landfill.

Pathways for Dispersion of Hazardous Materials:

Flowing surface water, groundwater migration, volatilization, and windblown dust are potential dispersion methods. Inhalation or ingestion of dust, inhalation of vapors, and ingestion of water are potential pathways for human exposure to contaminants.

RELEASE HISTORY:

The facility background and release history are described in the Final Current Conditions Report (CCR), Wellman Dynamics Corporation, Creston, Iowa, USEPA ID No. IAD065218737, June 2005, prepared by BT², Inc. Brief descriptions are provided below. Refer to the CCR for more information.

Known soil or groundwater contamination:

Metals and volatile organic compounds (VOCs) have been detected in site soils as a result of historical site use and a PCE spill at the site. Chromium and TCE have been detected in site soils at concentrations exceeding Ingestion or Inhalation USEPA soil screening levels (SSLs). The maximum arsenic concentration detected at the site also exceeds the SSL, but is fairly typical of natural background arsenic concentrations.

Metals and VOCs have been detected in site groundwater as a result of historical site use and a PCE spill at the site. Chromium, arsenic, fluoride, and VOCs have been detected in site groundwater at concentrations exceeding USEPA Primary Maximum Contaminant Levels (MCLs) for drinking water.

Background and description of any previous investigations or releases:

A summary of past investigation activities and releases is provided in the CCR.

POTENTIAL HEALTH AND SAFETY HAZARDS:

Anticipated physical hazards (Those that potentially apply are checked):

<input checked="" type="checkbox"/> Heat	<input type="checkbox"/> Heavy equipment
<input checked="" type="checkbox"/> Cold	<input type="checkbox"/> Physical Trauma/injury from moving machinery
<input type="checkbox"/> Noise	<input type="checkbox"/> Electrical hazards
<input type="checkbox"/> Excavation	<input type="checkbox"/> Confined space entry
<input type="checkbox"/> Cave-ins	<input type="checkbox"/> Explosion
<input type="checkbox"/> Handling/transferring of petroleum products	<input type="checkbox"/> Fire
<input checked="" type="checkbox"/> Falls/trips/slipping	<input type="checkbox"/> Other (specify)
<input type="checkbox"/> Vehicle traffic on-site	

Other information that could impact health and safety of workers on-site:

Wastes containing thorium were buried in a portion of the facility. The area of thorium burial is referred to as the radiological area, and is marked on site figures. **No RCRA Facility Investigation activities should take place within the radiological area.**

AIR MONITORING REQUIREMENTS:

See attached table

Perform air monitoring in the breathing zone whenever beginning work at a different part of the site, when new contaminants are noted, when a new activity is begun, and periodically during all intrusive activities. Record time and results of monitoring in field notebook and/or on field forms. Perform monitoring using both Drager tubes and ionization detector directly over the borehole and in the breathing zone.

Brief instructions on using the Drager tube monitoring system:

For chlorinated hydrocarbon sites, use the vinyl chloride tubes. Always read and follow the instructions provided with the tubes, as the instructions are different for each compound. Once the tube is prepared and in place, operate the bellows 5 times, allowing 60 seconds between each compression to allow for full expansion.

When using this method for air monitoring, understand that it will require approximately 5 minutes for each test. When testing is required, suspend work in the testing area and complete monitoring prior to restarting. As indicated in the Action Levels Table below, any detectable amount of vinyl chloride using the Drager tube method is above the action level.

Air Monitoring Instruments to be used include the following:

- ☐ Flame-ionization Detector
- ☒ Photo-ionization Detector with a lamp rating of 10.2 eV or greater.
- ☒ Other: Drager tubes for vinyl chloride analysis in the breathing zone.

PERSONAL PROTECTIVE EQUIPMENT (PPE):

(Appropriate levels are circled, and action levels are as determined on attached table.)

Job:

Level of Protection:

Observe drilling and sampling of boreholes,
and installation and development of wells

A or B or C or **D**

Collect surface soil samples

A or B or C or **D**

Sample monitoring wells

A or B or C or **D**

Survey

A or B or C or **D**

Conduct Slug Tests

A or B or C or **D**

POTENTIAL CHEMICAL HAZARD SUMMARY

Chemical	REL (ppm)	STEL (ppm)	C (ppm)	IDLH (ppm)	LFL/ UFL (%)	Flash Point (°F)	IP (eV)	BP (°F)	RE	Odor	Carcin- ogen	Skin or eye Irritant
Benzene	0.1 NIOSH 1.0 OSHA	1 NIOSH 5.0 OSHA	--	500	1.2/ 7.8	12	9.24	176	IH, A, IG, CS	Sweet aromatic odor 100% recog- nition @ 300 ppm	Yes	Yes
1,1 DCE (vinylidene chloride)	NA	NA	--	NE	6.5/15.5	-2	10.00	89	IH, A, IG, CS	Sweet odor	Yes	Yes
1,2 DCE	200	NE	--	1,000	5.6/12.8	36-39	9.65	118- 140	IH, IG, CS	Sweet odor	No	Yes
Ethylbenzene	100	125	--	800 (10% LEL)	0.8/ 6.7	55	8.76	277	IH, IG, CS	--	No	Yes
Naphthalene	10	15	--	250	0.9/ 5.9	174	8.12	424	IH, A, IG, CS	--	No	Yes
Tetrachloro- ethylene ⁵	100 OSHA	300 (5 min.) OSHA	200 OSHA	150 NIOSH	NA/ NA	NA	9.32	250	IH, A, IG, CS	Chloro- form or sweet odor	Yes	Yes
Toluene	100 NIOSH 200 OSHA	150 NIOSH 500 (10 min.) OSHA	200 OSHA	500	1.1/ 7.1	40	8.82	232	IH, A, IG, CS	100% recog- nition @ 40 ppm	No	Yes

Chemical	REL (ppm)	STEL (ppm)	C (ppm)	IDLH (ppm)	LFL/U FL (%)	Flash Point (°F)	IP (eV)	BP (°F)	RE	Odor	Carcin- ogen?	Skin or eye Irritant ?
Trichloro- ethene	100 OSHA	300 (5 min.) OSHA	200 OSHA	1,000	8/10.5	NA	9.45	189	IH, A, IG, C	Chloro- form sweet odor	Yes	Yes
Xylene	100	150	--	900	0.9/7.1	63	8.56	282- 292	IH, A, IG, CS	100% recog- nition @ 0.4 to 20 ppm	No	Yes
Vinyl chloride	1 OSHA	NE	5 OSHA	NE	3.6/33	-7 °F (boiling point)	9.99	7	IH, CS	Sweet odor	Yes	Yes

NOTES:

- 1) Data for specific compounds obtained from NIOSH Pocket Guide to Chemical Hazards (February 2004), unless otherwise noted.
- 2) Odor warning data obtained from Handbook of Environmental Data on Organic Chemicals (1983), edited by Karel Verschueren, published by Van Nostrand Reinhold, page 50.
- 3) REL = Maximum 10 hour time-weighted average exposure
 LFL/UFL = Lower/upper flammability limit
 C = Ceiling concentration not to be exceeded except as noted
 STEL = 15 minute time-weighted average exposure unless otherwise noted
 RE = Routes of entry (IG - Ingestion, IH - Inhalation, CS - Skin and/or eye contact, A - Skin absorption)
 IDLH = Immediately dangerous to life or health
 DCE = Dichloroethene
 BP = Boiling Point
 NE = Not Established
 NA = Not Available
 IP = Ionization Potential
- 4) Tetrachloroethylene decomposes in fire to hydrogen chloride and phosgene.

ACTION LEVELS AND REQUIRED PPE

PID/FID Reading in Breathing Zone	Level of Protection	Required PPE
Less than 10 units above background	D	Safety glasses/goggles Steel toe/shank boots Hardhat, when overhead hazards are present Chemical resistant gloves (not latex) Hearing protection, when loud equipment is operating Chemical resistant apron or coveralls when splash hazard exists
Greater than 10 units above background	STOP WORK AND MOVE TO A SAFE AREA. CONTACT THE HEALTH AND SAFETY COORDINATOR AND RE-EVALUATE THE WORKPLAN.	

ACTION LEVELS AND REQUIRED PPE FOR VINYL CHLORIDE

PID/FID Reading in Breathing Zone	Vinyl Chloride Drager Reading	Level of Protection	Required PPE
--	Any Detectable Amount	--	STOP WORK AND MOVE TO A SAFE AREA. CONTACT THE HEALTH AND SAFETY COORDINATOR AND RE-EVALUATE THE WORKPLAN.

ENTRY LEVEL

Initial entry level is **Level D**. Upgrade as needed based on the action levels listed in the above table.

MANDATORY DAILY SITE SAFETY MEETING RECORD

:

Date: _____ **Project #** _____

Site: _____

Location: _____

Personnel Present: _____

Weather Conditions: _____

Issues Discussed: _____

Incidents: _____

Prepared by: _____
• (Signature)

Wellman Dynamics Corporation – Directions from site to hospital

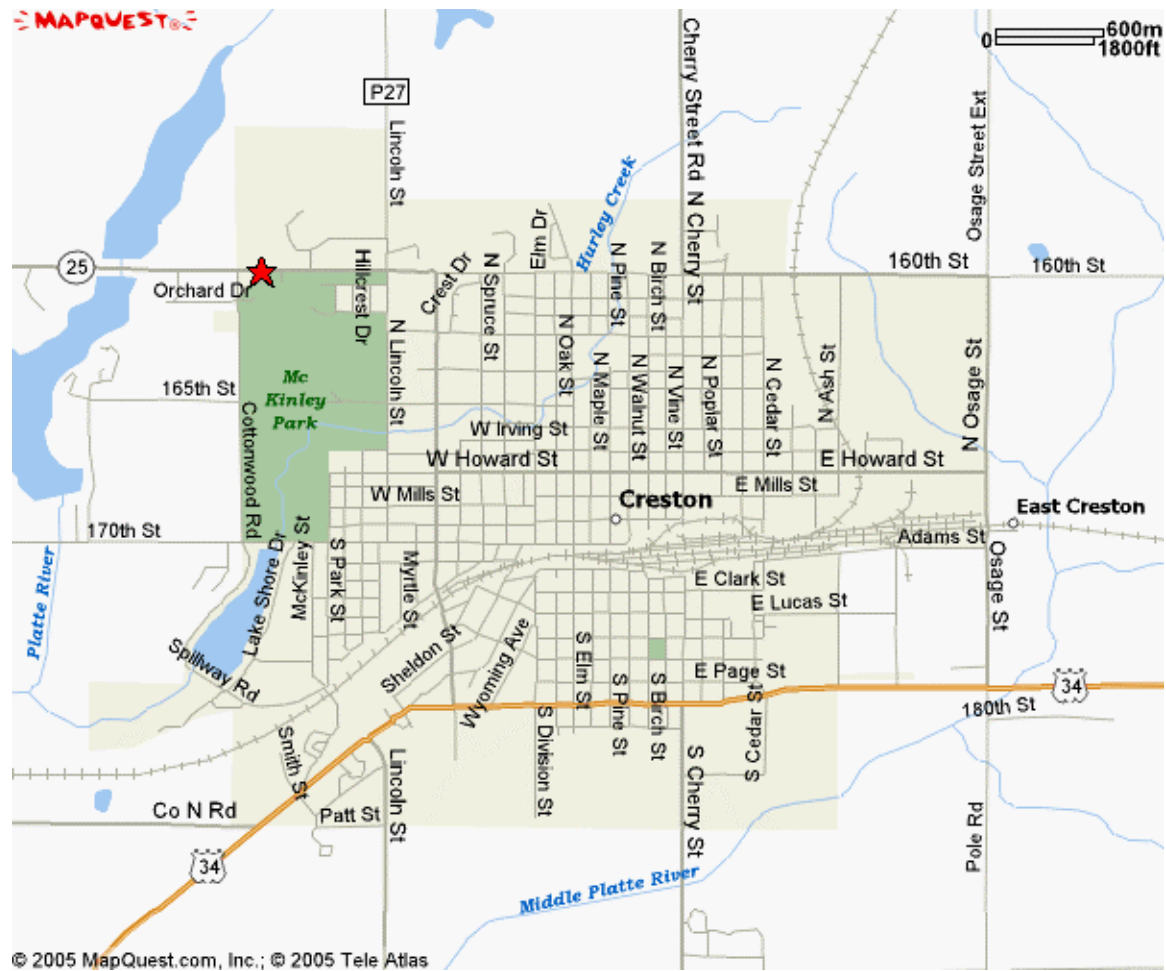


Figure 1
Proposed Project Schedule
RCRA Facility Investigation Workplan
Wellman Dynamics Corporation

